

DIGITALLY-CONTROLLED, VARIABLE-GAIN
MIXER AND AMPLIFIER STRUCTURES

ABSTRACT OF THE DISCLOSURE

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Digitally-controlled, variable-gain mixers and amplifiers are provided which couple transconductance cells to receive respective tap signals from a fixed attenuator that receives a first input signal. A gain interpolator provides first and second control currents with
10 amplitudes that correspond to a segment of a control word and a multiplexer responds to another control-word segment by routing the control currents to a selected pair of adjacent transconductance cells. In response, the transconductance cells provide amplifier current signals which can also be routed to a transistor switch that mixes
15 them with a second input signal to generate a mixer output signal whose amplitude corresponds to the control word.

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